

CLAIMS

1. An image processing method for performing an
under color removal process and a black recording liquid
5 incorporation process with respect to an input three-color
signal, and generating image data for an imaging apparatus
that is configured to form a color image on a recording medium
using at least a cyan recording liquid, a magenta recording
liquid, a yellow recording liquid, and a black recording
10 liquid, the method comprising the steps of:

regulating a maximum black recording liquid
incorporation amount such that glossiness of black realized in
an image formed on a glossy recording medium is not
substantially degraded; and

15 setting the black to be realized by the black
recording liquid until reaching the regulated maximum black
recording liquid incorporation amount, and setting the black
to be realized through addition of a composite of the cyan
recording liquid, the magenta recording liquid, and the yellow
20 recording liquid if the black to be realized requires an
amount of the black recording liquid exceeding the regulated
maximum black recording liquid incorporation amount.

2. The image processing method as claimed in claim
25 1, wherein

the cyan recording liquid, the magenta recording liquid, the yellow recording liquid, and the black recording liquid contain pigment.

5 3. The image processing method as claimed in claim
2, wherein

the maximum black recording liquid incorporation amount is regulated in the black recording liquid incorporation process according to characteristics of the
10 recording medium, and is arranged to be greater than 0% and less than 52%.

4. The image processing method as claimed in claim
3, wherein

15 the maximum black recording liquid incorporation amount is regulated such that the glossiness of the black realized in the image formed on the glossy recording medium does not become substantially lower than glossiness of the glossy recording medium.

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5. The image processing method as claimed in claim
3, wherein

an under color removal amount for the under color removal process is set to 100%.

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6. The image processing method as claimed in claim
3, wherein

an under color removal amount for the under color
removal process is set to 100% until the under color removal
5 amount reaches the regulated maximum black recording liquid
incorporation amount.

7. A printer driver run on a computer that is
configured to perform an under color removal process and a
10 black recording liquid incorporation process with respect to
an input three-color signal, and generate image data for an
imaging apparatus that is configured to form a color image on
a recording medium using at least a cyan recording liquid, a
magenta recording liquid, a yellow recording liquid, and a
15 black recording liquid, which printer driver is executed by
the computer to perform the steps of:

regulating a maximum black recording liquid
incorporation amount such that glossiness of black realized in
an image formed on a glossy recording medium is not
20 substantially degraded;

setting the black to be realized by the black
recording liquid until reaching the regulated maximum black
recording liquid incorporation amount, and setting the black
to be realized through addition of a composite of the cyan
25 recording liquid, the magenta recording liquid, and the yellow

recording liquid if the black to be obtained requires an amount of the black recording liquid exceeding the regulated maximum black recording liquid incorporation amount.

5 8. An imaging apparatus that is configured to perform an under color removal process and a black recording liquid incorporation process with respect to an input three-color signal, and form a color image on a recording medium using at least a cyan recording liquid, a magenta recording
10 liquid, a yellow recording liquid, and a black recording liquid, the apparatus comprising:

 a processing unit that is configured to regulate a maximum black recording liquid incorporation amount such that glossiness of black realized in an image formed on a glossy
15 recording medium is not substantially degraded, set the black to be realized by the black recording medium until reaching the regulated maximum black recording liquid incorporation amount, and set the black to be realized through addition of a composite of the cyan recording liquid, the magenta recording
20 liquid, and the yellow recording liquid if the black to be obtained requires an amount of the black recording liquid exceeding the regulated maximum black recording liquid incorporation amount.

25 9. The imaging apparatus as claimed in claim 8,

wherein

the cyan recording liquid, the magenta recording liquid, the yellow recording liquid, and the black recording liquid contain pigment.

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10. The imaging apparatus as claimed in claim 9,
wherein

the maximum black recording liquid incorporation amount is regulated in the black recording liquid

10 incorporation process according to characteristics of the recording medium, and is arranged to be greater than 0% and less than 52%.

11. The imaging apparatus as claimed in claim 10,
15 wherein

the maximum black recording liquid incorporation amount is regulated such that the glossiness of the black realized in the image formed on the glossy recording medium does not become substantially lower than glossiness of the
20 glossy recording medium.

12. The imaging apparatus as claimed in claim 10,
wherein

an under color removal amount for the under color
25 removal process is set to 100%.

13. The imaging apparatus as claimed in claim 10,
wherein

an under color removal amount for the under color
5 removal process is set to 100% until the under color removal
amount reaches the regulated maximum black recording liquid
incorporation amount.

14. An image processing apparatus that is
10 configured to generate image data for an imaging apparatus
that forms a color image on a recording medium using at least
a cyan recording liquid, a magenta recording liquid, a yellow
recording liquid, and a black recording liquid, the apparatus
comprising:

15 a printer driver that is configured to perform an
under color removal process and a black recording liquid
incorporation process with respect to an input three-color
signal, regulate a maximum black recording liquid
incorporation amount such that glossiness of black realized in
20 an image formed on a glossy recording medium is not
substantially degraded, set the black to be realized by the
black recording liquid until reaching the regulated maximum
black recording liquid incorporation amount, and set the black
to be realized through addition of a composite of the cyan
25 recording liquid, the magenta recording liquid, and the yellow

recording liquid if the black to be obtained requires an amount of the black recording liquid exceeding the regulated maximum black recording liquid incorporation amount.

5 15. An imaging system, comprising:

an imaging apparatus that is configured to form a color image on a recording medium using at least a cyan recording liquid, a magenta recording liquid, a yellow recording liquid, and a black recording liquid; and

10 an image processing apparatus that is configured to generate image data for the imaging apparatus, which image processing apparatus includes a printer driver that is configured to perform an under color removal process and a black recording liquid incorporation process with respect to
15 an input three-color signal, regulate a maximum black recording liquid incorporation amount such that glossiness of black realized in an image formed on a glossy recording medium is not substantially degraded, set the black to be realized by the black recording liquid until reaching the regulated
20 maximum black recording liquid incorporation amount, and set the black to be realized through addition of a composite of the cyan recording liquid, the magenta recording liquid, and the yellow recording liquid if the black to be obtained requires an amount of the black recording liquid exceeding the
25 regulated maximum black recording liquid incorporation amount.